

NASA Advisory Council
National Aeronautics and Space Administration
Washington, DC 20546

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Mr. Daniel S. Goldin
Administrator
National Aeronautics and
Space Administration
Washington, DC 20546

Dear Mr. Goldin:

We had a very substantive meeting at Glenn Research Center on August 3-4, 1999. Mr. Donald Campbell provided an informative overview of the Center and its issues. The Council toured several facilities and viewed actual hardware being prepared for wind tunnel testing.

Mr. Dan Tam briefed his efforts in the Commercialization arena. Mr. Tam noted three reasons why commercialization has not been more successful in the past: (1) little economic reason for NASA to push for it; (2) NASA is not set up to be commercial; and (3) lack of real incentive. Mr. Tam explained his efforts at changing this paradigm. We believe that this is a difficult problem, but there have been several SBIR successes. We endorse reinvested "profits" into "seed corn" technology research.

General Spence Armstrong gave an update on the aeronautics technology program. He provided a status of the Enterprise's research in the Three Pillars and ten technology goals set forth in 1997. He also discussed several institutional issues and budgetary trends for the future. We are disturbed by the reduction in resources for the Enterprise over the past two fiscal years. The Council wants to ensure that NASA's research and technology in air traffic management and human factors is integrated into operational systems. Additionally, we would like to have a future one-hour session in which Administrator Garvey, the NAC, the FAA advisory council, and you, review the joint NASA/FAA ATM program.

Gen. Armstrong also provided an overview and history of the High Speed Research (HSR) program. We endorse the Enterprise's plan

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to extensively document and archive the HSR activities. However, it is important that supersonic research is continued at an appropriate level to support future options.

After several months of expressing our concern about the need for an International Space Station (ISS) Probability Risk Assessment, the Council was pleased with the presentation by Mr. Michael Hawes and Mr. Bryan O'Connor of Futron, Inc.. Mr. O'Connor walked the Council through the process that his company and the program office are undertaking. They are on the right track. We are eager to hear the first results of their Phase 1 activities at our next meeting. The Council also heard a briefing from Mr. Phil Cleary on the Stafford Task Force's Phase One report.

Dr. Dan Mulville and Langley's Independent Assessment Team (IAT) provide a report on Phase 2 of the Space Transportation Architecture Studies. We were impressed with IAT's findings. Dr. Mulville also highlighted the next phase of the studies and presented a timeline of upcoming activities. The Council believes that the work to date shows that there is not yet an economically viable solution to NASA's future Space Transportation needs. The next step may be to examine what requirements can be relaxed or changed, which could lead to an economic and technical solution to our space transportation dilemma.

On the second day, Ms. Johanna Gunderson briefed the Council on the GPRA requirements and objectives. This briefing was in preparation for the Council's independent review of the NASA FY 1999 Performance Plan at our next meeting.

The Council's formal recommendations are attached in Enclosure A. There are three issues raised by the committees that need additional emphasis. First, Mr. Jim Sinnett, requested the Council be updated on the latest in Integrated Synthesis Environment (ISE) technology by the Aeronautics and Space Engineering Board (ASEB).

Second, a theme that concerns many Council members is the lack of a "home" in NASA for fundamental physics and we have a recommendation on the subject. Finally, the Council agreed with a proposal by Adm. Robert Monroe, regarding the replacement of the Shuttle and two-stage-to-orbit concepts. This subject continues to concern the Council.

The Council's next meeting will focus on the FY 1999 Performance Plan and will be held at NASA Headquarters on December 14-15, 1999. Once again, the Council would like to express its thanks to everyone at Glenn Research Center that made our August meeting enjoyable and productive.

Sincerely,



Bradford W. Parkinson
Chair
Enclosure

NASA ADVISORY COUNCIL (NAC)
Ohio Aerospace Institute
Glenn Research Center at Lewis Field, Ohio
August 3-4, 1999

RECOMMENDATIONS

STAS Assessment

NASA should immediately structure the entire \$1.25 billion "funding wedge" in FY 01-04 into a creative government-industry backup Reusable Launch Vehicle (RLV) program capable of producing a Shuttle replacement vehicle by about 2010. The focus of this initial four-year effort should be; consider conceptual design; systems engineering; and early demonstration of alternative, robust Two-Stage-To-Orbit (TSTO) concepts, taking the optimum concept to the point of full-scale engineering development.

AE

Fundamental Physics

The space environment provides unique opportunities for research in fundamental physics. However, implementation of NASA programs in this area has been hampered by the absence of a clear home within the agency. NASA should review the organizational, budgetary, and interagency aspects of its fundamental physics programs, with an eye toward solving this structural problem.

S/AS

Contamination of the US Laboratory Module of ISS

The ISS galley should be located outside of the US laboratory. In addition, ISS and US Laboratory environmental and particulate sampling protocols should be developed.

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